

## **Processing & Exploitation**



### **CHALLENGES**

- **Manage, process, exploit current massive amounts of ISR data flows to analyze Patterns of Life**
- **Infer relationships and assessment of the current situation**
- **Exploit targets in denied areas**
- **Process actionable ISR information via high performance massively-parallel systems**
- **Energy efficient computing for SWAP-constrained at-the-sensor processing**

### **Near (FY11 - FY15)**



- Mission archive, mining, and dissemination, real-time motion statistics and analysis
- 4x increase (500 MHz to 2GHz) in digital bandwidth processing
- Embedded HPC for City-wide (10-20 km) persistent surveillance

### **Mid (FY16 – FY20)**



- Text understanding: ID of entities in a social network in <2 weeks vs 6 months, 12x reduction
- Automatic discovery of 80% of relevant activities
- 3-layer stacked logic with core to core communication, 2x system energy performance

### **Far (FY21 – FY25)**



- Autonomous data processing and exploitation
- Exascale computing applications for C4ISR
- High performance complex autonomous processing and decision making systems